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|  | ***σ* (ms)** | 　 |
| 　 | **Left-first** | 　 | **Right-first** |  | **Unbiased** | 　 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Low-AQ group (TD participants) | 61.9  | ± | 8.44  |  | 50.1  | ± | 7.64  |  | 57.1  | ± | 5.75  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| High-AQ group (TD participants) | 54.7  | ± | 11.5  |  | 73.6  | ± | 19.5  |  | 60.7  | ± | 15.7  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  ASD group | 38.1  | ± | 8.60  |  | 47.0  | ± | 13.8  |  | 31.4  | ± | 8.84  |  |
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Supplementary Table S1: *σ* values across the participants (mean ± SEM) for the left-first biased, right-first biased, and unbiased conditions in the low-AQ, high-AQ, and ASD groups (without ASD participant #3). A two-way analysis of variance (ANOVA) on *σ* with condition (within participants: left-first biased, right-first biased and unbiased conditions) and group (between participants: low-AQ, high-AQ, and ASD) revealed no significant main effect of condition (*F*(1.5,49.48) = 0.54, *p* = 0.54, partial *η2* = 0.016), group (*F*(2, 33) = 1.51, *p* = 0.23, partial *η2* = 0.084) and its interaction (*F*(3, 49.48) = 1.26, *p* = 0.30, partial *η2* = 0.071). In the ANOVA for *σ*, the degrees of freedom were adjusted using Greenhouse-Geisser’s ε according to Mendoza's multisample sphericity test (*p* = 0.0006). There was no significant correlation between the *σ*s and AQ scores across the TD and ASD participants (left-first biased condition: *r* = −0.24, *p* = 0.16; right-first biased condition: *r* = 0.17, *p* = 0.32; unbiased condition: *r* = −0.24, *p* = 0.15; *n* = 36)*.*

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|  | ***σ* (ms)** | 　 |
| 　 | **Left-first** | 　 | **Right-first** |  | **Unbiased** | 　 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Low-AQ group (TD participants) | 61.9  | ± | 8.44  |  | 50.1  | ± | 7.64  |  | 57.1  | ± | 5.75  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| High-AQ group (TD participants) | 54.7  | ± | 11.5  |  | 73.6  | ± | 19.5  |  | 60.7  | ± | 15.7  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  ASD group | 42.4  | ± | 8.78  |  | 53.8  | ± | 14.2  |  | 35.7  | ± | 9.17  |  |
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Supplementary Table S2: *σ* values across the participants (mean ± SEM) for the left-first biased, right-first biased, and unbiased conditions in the low-AQ, high-AQ, and ASD groups (without ASD participants #3 and #6). A two-way analysis of variance (ANOVA) on *σ* with condition (within participants: left-first biased, right-first biased and unbiased conditions) and group (between participants: low-AQ, high-AQ, and ASD) revealed no significant main effect of condition (*F*(1.5,48.01) = 0.62, *p* = 0.50, partial *η2* = 0.019), group (*F*(2, 32) = 0.81, *p* = 0.45, partial *η2* = 0.048) and its interaction (*F*(3, 48.01) = 1.29, *p* = 0.29, partial *η2* = 0.075); In the ANOVA on *σ*, the degrees of freedom were adjusted using Greenhouse-Geisser’s ε according to Mendoza's multisample sphericity test (*p* = 0.0016). There was no significant correlation between the *σ*s and AQ scores across the TD and ASD participants (left-first biased condition: *r* = −0.19, *p* = 0.26; right-first biased condition: *r* = 0.24, *p* = 0.16; unbiased condition: *r* = −0.18, *p* = 0.29; *n* = 35)*.*

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| 　 | **Total AQ** | **Social skill** | **Attention switching** | **Attention to detail** | **Communication** | **Imagination** |
|  |  |  |  |  |  |  |
| ***r*** | −0.42  | −0.21  | −0.35  | −0.34  | −0.39  | −0.24  |
| ***p*** | 0.022 | 0.28  | 0.059  | 0.071  | 0.038  | 0.20  |
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Supplementary Table S3: Correlation between the *ΔPSS* valuesandAQ subscale scores for TD participants (*n* = 29).

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| 　 | **Total AQ** | **Social skill** | **Attention switching** | **Attention to detail** | **Communication** | **Imagination** |
|  |  |  |  |  |  |  |
| ***r*** | −0.23  | −0.16  | −0.24  | −0.24  | −0.25  | −0.013  |
| ***p*** | 0.17  | 0.36  | 0.15  | 0.15  | 0.14  | 0.94  |
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Supplementary Table S4: Correlation between the *ΔPSS* valuesand AQ subscale scoresacross TD and ASD participants (*N* = 37).

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| 　 | **Total AQ** | **Social skill** | **Attention switching** | **Attention to detail** | **Communication** | **Imagination** |
|  |  |  |  |  |  |  |
| ***r*** | −0.49  | −0.32  | −0.46  | −0.35  | −0.47  | −0.24  |
| ***p*** | 0.0027  | 0.059  | 0.0053  | 0.034  | 0.0041  | 0.17  |
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Supplementary Table S5: Correlation between the *ΔPSS* valuesandsubscales of the AQ scores across TD and ASD participants (without ASD participants #3; *n* = 36).

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| 　 | **Total AQ** | **Social skill** | **Attention switching** | **Attention to detail** | **Communication** | **Imagination** |
|  |  |  |  |  |  |  |
| ***r*** | −0.48  | −0.31  | −0.45  | −0.34  | −0.46  | −0.22  |
| ***p*** | 0.0037  | 0.072  | 0.0074  | 0.045  | 0.0057  | 0.20  |
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Supplementary Table S6: Correlation between the *ΔPSS* valuesandAQ subscale scores across the TD and ASD participants (without ASD participants #3 and #6; *n* = 35).